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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,730	09/12/2003	Abraham Gross	Q77482	4923

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EXAMINER

HEINRICH, SAMUEL M

ART UNIT PAPER NUMBER

1725

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,730

Applicant(s)

GROSS ET AL.

Examiner

Samuel M. Heinrich

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 73-77, 114-129, 188-192, 214-229 and 288-292 is/are pending in the application.
- 4a) Of the above claim(s) 1-13, 73-77, 114-129, 214-229 and 288-292 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 188-192 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6 sheets.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 1-13, 73-77, 114-129, 214-229, and 288-292 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on July 07, 2005.

Specification

The disclosure is objected to because of the following informalities: Page 25, line 24, "?n" is not clear. Page 26, line 32, and page 27, line 5, "f?" is not clear.

Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 188-192 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,491,361 to Spann in view of USPN 5,302,798 to Inagawa et al. Spann teaches delivering energy to a substrate comprising dynamically directable radiant energy and providing a plurality of beams of radiation (Figure 3, Item 52), each beam propagating in a dynamically selectable direction (Figure 3, Items 50a-e), and a plurality of independently positionable beam steering elements, some of said beam steering elements receiving said plurality of beams and directing them to selectable locations on the substrate (Figure 3, Items 58 and 50a-e). Inagawa et al. teach a plurality of beam steering elements to be independently positionable (col. 3, lines 20-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Spann to utilize the positionability during operation of the radiant source in order to improve efficiency of hole formation (see Inagawa et al. col. 1, lines 30-60) and further to modify the combined invention of Inagawa et al and to utilize the automatic positioning components of the reflector in order to fully automate the laser machine (see paragraph 55).

Claims 188-192 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication US20040196559A1 by Lissotschenko in view of

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Applicant's Admitted Prior Art (AAPA). With respect to (WRT) claims 188 and 189, Lissotschenko shows (Figure 2A) a method of delivering laser energy with simultaneous output of a plurality of laser beams, independent steering of the beams, and focusing the beams to different locations, but does not describe delivery to an electrical circuit substrate. AAPA comprises the Information Disclosure Statement submitted 12-23-2003 and describes numerous applications of laser beam energy to electrical circuit substrates. The use of the Lissotschenko laser apparatus for a plurality of simultaneous beam applications to an electrical substrate would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the application of beams to an electrical workpiece is known as described in AAPA and because the plural and simultaneous application provides quick processing. With respect to (WRT) claims 190 and 191, the substitution of an acousto-optical deflector (AOD) in place of the beam splitting elements of Lissotschenko would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the AOD is very old and well known in the art and would be a suitable equivalent. WRT claim 192, Lissotschenko describes [0050] the use of XY displacement of the array of lens elements.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art pertains to plural and steerable laser beams.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel M. Heinrich whose telephone number is 571-272-1175. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Samuel M Heinrich
Primary Examiner
Art Unit 1725

SMH